

**WE CLAIM:**

1. A filter assembly comprising:
  - a housing defining an interior chamber, the housing in fluid communication with an electronic enclosure;
  - an adsorbent component within the interior of the housing;
  - a first diffusion channel, the first diffusion channel configured and arranged to provide fluid communication between the interior chamber of the housing and the inside of the electronic enclosure; and
  - a second diffusion channel, the second diffusion channel configured and arranged to provide fluid communication between the interior chamber of the housing and the exterior of the electronic enclosure.
2. The filter assembly of claim 1, wherein the adsorbent component is positioned in fluid communication with the first and second diffusion channels.
3. The filter assembly of claim 1, wherein the first and second diffusion channels are of equal length and cross-sectional area.
4. The filter assembly of claim 1, further comprising a first particulate filter component.

5. The filter assembly of claim 4, wherein the first particulate filter component is positioned between the adsorbent component and the inside of the electronic enclosure.

6. The filter assembly of claim 4, wherein the first particulate filter component is positioned between the adsorbent component and the first diffusion channel.

7. The filter assembly of claim 4, further comprising a second particulate filter component.

8. The filter assembly of claim 7, wherein the second particulate filter component is positioned between the adsorbent component and the outside of the electronic enclosure.

9. The filter assembly of claim 7, wherein the second particulate filter component is positioned between the adsorbent component and the second diffusion channel.

10. The filter assembly of claim 1, wherein the adsorbent component comprises activated carbon.

11. The filter assembly of claim 4, wherein the first particulate filter component comprises a porous membrane.

12. The filter assembly of claim 11, wherein the porous membrane comprises a polytetrafluoroethylene membrane.

13. The filter assembly of claim 1, wherein the filter assembly is configured and arranged to filter air.

14. A filter assembly comprising:  
a first layer defining a first aperture;  
a second layer defining a second aperture; and  
an adsorbent component positioned between the first and second layers;  
wherein the first and second layers surround the adsorbent component and define a cavity;

a first diffusion channel, the first diffusion channel configured and arranged to provide fluid communication between the cavity and the first aperture;

a second diffusion channel, the second diffusion channel configured and arranged to provide fluid communication between the cavity and the second aperture.

15. The filter assembly of claim 14, wherein the adsorbent component is positioned in fluid communication with the first and second diffusion channels.

16. The filter assembly of claim 14, wherein the first and second diffusion channels are of equal length and cross-sectional area.

17. The filter assembly of claim 14, further comprising a first particulate filter component.

18. The filter assembly of claim 17, wherein the first particulate filter component is positioned in between the adsorbent component and the inside of an electronic enclosure.

19. The filter assembly of claim 17, wherein the first particulate filter component is positioned between the adsorbent component and the first diffusion channel.

20. The filter assembly of claim 17, further comprising a second particulate filter component.

21. The filter assembly of claim 20, wherein the second particulate filter component is positioned in between the adsorbent component and the outside of an electronic enclosure.

22. The filter assembly of claim 20, wherein the second particulate filter component is positioned between the adsorbent component and the second diffusion channel.

23. The filter assembly of claim 14, wherein the adsorbent component comprises activated carbon.

24. The filter assembly of claim 17, wherein the first particulate filter component comprises a porous membrane.

25. The filter assembly of claim 24, wherein the porous membrane comprises a polytetrafluoroethylene membrane.

26. The filter assembly of claim 14, wherein the filter assembly is configured and arranged to filter air.

27. A filter accessory comprising:

a housing, and

a diffusion channel defined by the housing;

wherein the housing is configured to be in fluid communication with a breather filter having less than two diffusion channels.